

(FILE 'HOME' ENTERED AT 09:58:30 ON 19 APR 2006)

FILE 'CAPLUS, MEDLINE' ENTERED AT 09:58:37 ON 19 APR 2006

L1	71 S (AEROSOL OR CONDENSAT? OR (VAPOR? OR VAPOUR?)) (5A) (CANNABIS
L2	0 S L1 AND (CARRIER (5A) GAS)
L3	20 S L1 AND GAS?
L4	14 DUPLICATE REMOVE L3 (6 DUPLICATES REMOVED)
L5	14 FOCUS L4 1-

L5 ANSWER 1 OF 14 CAPLUS COPYRIGHT 2006 ACS on STN

TI **Cannabis vaporizer** combines efficient delivery of  
**THC** with effective suppression of pyrolytic compounds

AB **Cannabis vaporization** is a technol. designed to deliver inhaled cannabinoids while avoiding the respiratory hazards of smoking by heating cannabis to a temperature where therapeutically active **cannabinoid vapors** are produced, but below the point of combustion where noxious pyrolytic byproducts are formed. This study was designed to evaluate the efficacy of an herbal vaporizer known as the Volcano, produced by Storz & Bickel GmbH&Co. KG, Tuttlingen, Germany (<http://www.storz-bickel.com>). Three 200 mg samples of standard NIDA **cannabis** were **vaporized** at temps. of 155°-218°. For comparison, smoke from combusted samples was also tested. The study consisted of two phases: (1) a quant. anal. of the solid phase of the vapor using HPLC-DAD-MS (High Performance Liquid Chromatograph-Diode Array-Mass Spectrometry) to determine the amount of cannabinoids delivered; (2) a GC/MS (**Gas** Chromatograph/Mass Spectrometer) anal. of the **gas** phase to analyze the vapor for a wide range of toxins, focusing on pyrene and other polynuclear aromatic hydrocarbons (PAHs). The HPLC anal. of the vapor found that the Volcano delivered 36%-61% of the THC in the sample, a delivery efficiency that compares favorably to that of marijuana cigarettes. The GC/MS anal. showed that the **gas** phase of the **vapor** consisted overwhelmingly of **cannabinoids**, with trace amts. of three other compds. In contrast, over 111 compds. were identified in the combusted smoke, including several known PAHs. The results indicate that **vaporization** can deliver therapeutic doses of **cannabinoids** with a drastic reduction in pyrolytic smoke compds. Vaporization therefore appears to be an attractive alternative to smoked marijuana for future medical cannabis studies.

ACCESSION NUMBER: 2004:397958 CAPLUS

DOCUMENT NUMBER: 141:355141

TITLE: **Cannabis vaporizer** combines  
efficient delivery of **THC** with effective  
suppression of pyrolytic compounds

AUTHOR(S): Gieringer, Dale; St. Laurent, Joseph; Goodrich, Scott

CORPORATE SOURCE: California NORML, San Francisco, CA, 94114, USA

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REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

## Refine Search

Your wildcard search against 10000 terms has yielded the results below.

***Your result set for the last L# is incomplete.***

The probable cause is use of unlimited truncation. Revise your search strategy to use limited truncation.

### Search Results -

Terms	Documents
((NaCl or (sodium adj chloride)) near (molten or melt\$)) and aerosol	11

Database:

US Pre-Grant Publication Full-Text Database  
 US Patents Full-Text Database  
 US OCR Full-Text Database  
 EPO Abstracts Database  
 JPO Abstracts Database  
 Derwent World Patents Index  
 IBM Technical Disclosure Bulletins

Search:

L4

Refine Search

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Clear

Interrupt

### Search History

DATE: Wednesday, April 19, 2006    [Printable Copy](#)    [Create Case](#)

**Set Name Query**  
side by side

**Hit Count Set Name**  
result set

DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR

L4    ((NaCl or (sodium adj chloride)) near (molten or melt\$)) and aerosol

11    [L4](#)

L3    ((NaCl or (sodium adj chloride)) near (molten or melted)) and aerosol

5    [L3](#)

DB=USPT; PLUR=YES; OP=OR

L2    4279824.pn.

1    [L2](#)

DB=PGPB; PLUR=YES; OP=OR

L1    20030062042

1    [L1](#)

END OF SEARCH HISTORY

	U	1	Document ID	Issue Date	Pages
1			US 20030032638 A1	20030213	11
2	X		US 20020058009 A1	20020516	46
3	X		US 6591839 B2	20030715	5
4	X		US 6514482 B1	20030204	23
5			US 6306431 B1	20011023	35
6	X		US 6102036 A	20000815	13
7	X		US 6095153 A	20000801	7
8	X		US 6041777 A	20000328	27
9	X		US 5960792 A	19991005	30
10	X		US 5957124 A	19990928	21
11	X		US 5934272 A	19990810	31

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13	X		US 5758637 A	19980602	30
14	X		US 5735263 A	19980407	32
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17	X		US 5544646 A	19960813	39
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